

We offer a

Bachelor or Master thesis

for students in Information Engineering and Management (Informationswirtschaft), Business Engineering (Wirtschaftsingenieurwesen), Economics Engineering (Technische VWL), Computer Science and Engineering (Informatik), or any other areas with substantial affinity to, and background in the latter. The topic of the thesis is in the area of **games with a purpose**,¹ applied to tasks related to the creation and management of semantic content, including conceptual models such as ontologies, and semantic descriptions of Web resources such as Web pages, images, graphics, music and video.

More concretely, the thesis will investigate the applicability of games with a purpose (or GWAP) to knowledge elicitation tasks for semantic content authoring. A GWAP is a (casual) game which is not only entertaining to play, but also serves a dedicated purpose. By playing it, people around the world train computers to carry out some interesting and useful task, which would otherwise be very challenging to solve in an automatic fashion. A prominent example of such a task is image tagging – humans typically find it easy to say what an image is about, however, with a few



exceptions like face recognition, automatic image analysis algorithms are still facing many limitations. The Google Image Labeler² exploits this feature, providing an entertaining game environment in which people consensually label images online, thus improving the quality of image retrieval algorithms. The aim of this thesis is to design and develop such a game for a different task, in this case knowledge elicitation. Knowledge elicitation comprises methods such as structured interviewing, card



sorting and laddering, which can be used to systematically gather (often tacit) knowledge from experts in a specific domain of interest. In the context of semantic content, knowledge elicitation methods are an integral part of ontology engineering, as they provide means to obtain the domain knowledge required to design ontology. The thesis, Bachelor or Master, will focus on a specific knowledge elicitation method; a selection will be made in agreement with the interested student. A Master thesis will additionally include a survey and analytical assessment of knowledge elicitation methods in semantic content authoring with respect to their potential to be effectively addressed by GWAPs.

Students interested in this topic should ideally have prior knowledge of semantic technologies, a solid background in Web technologies, and Java programming skills. Furthermore, the candidates should have a good command of English, as a pre-requisite for a feasible understanding of the related literature and documentation. The thesis itself can be written in German. The thesis will be carried out in collaboration with STI Innsbruck, University of Innsbruck, Austria.³

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¹ <http://www.gwap.com/>

² <http://images.google.com/imagelabeler/>

³ www.sti-innsbruck.at